WHAT IS CLAIMED IS:

1. A method of screening for biologically active agents that modulate a cancer associated protein kinase function, the method comprising:

combining a candidate biologically active agent with any one of:

(a) a polypeptide encoded by SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27; or having the amino acid sequence set forth in SEQ ID NOS:2, 4, 6, 8, 10, 12,14, 16, 18, 20, 22, 24, 26 or 28;

(b) a cell comprising a nucleic acid encoding a polypeptide encoded by SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27; or

(c) a non-human transgenic animal model for cancer associated kinase gene function comprising one of: (i) a knockout of a gene corresponding to SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27; (ii) an exogenous and stably transmitted mammalian gene sequence comprising polypeptide encoded by SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27; and determining the effect of said agent on kinase function.

2. A method for the diagnosis of cancer, the method comprising:

determining the upregulation of expression in SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27 in said cancer.

3. The method of Claim 2, wherein said cancer is a breast, liver, colon, muscle, prostate, kidney, lung, placental, or uterine cancer.

4. The method of Claim 2, wherein said determining comprises detecting the presence of increased amounts of mRNA in said cancer.

5. The method of Claim 2, wherein said determining comprises detecting the presence of increased amounts of protein in said cancer.

6. A method for inhibiting the growth of a cancer cell, the method comprising:

downregulating activity of the polypeptide encoded by SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27; or having the amino acid sequence set forth in SEQ ID NOS:2, 4, 6, 8, 10, 12,14, 16, 18, 20, 22, 24, 26 or 28; in said cancer cell.

7. The method according to Claim 6, wherein said method comprises introducing antisense sequences specific for SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27.

8. The method according to Claim 6, wherein said method comprises introducing an inhibitor of kinase activity into said cancer cell.

9. The method according to Claim 6, wherein said cancer cell is a breast, liver, colon, muscle, prostate, kidney, lung, placental, or uterine cancer cell.

10. A method of screening for targets of a cancer associated protein kinase, wherein said targets are associated with signal transduction in cancer cells, the method comprising:

comparing the pattern of gene expression in a normal cell, and in a tumor cell characterized by up-regulation of SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27.

11. The method according to Claim 10, wherein said comparing the pattern of gene expression comprises quantitating specific mRNAs by hybridization to an array of polynucleotide probes.

12. A method of screening for targets of a cancer associated protein kinase, wherein said targets are associated with signal transduction in cancer cells, the method comprising:

comparing the pattern of protein phosphorylation in a normal cell, and in a tumor cell characterized by up-regulation of SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27.

13. The method according to claim 10 or claim 12, wherein said signal transduction involves activation HSM801163, PCTK3, PFTK1, CRK7, PRKCN, CIT, STK6, PDK1, PAK4, ITK, BMX, PRKCM, NEK6 or PDPK1.

14. An isolated nucleic acid comprising the sequence set forth in SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 or 27.

15. A method to treat a tumor comprising administering a therapeutic amount of a composition comprising:

a compound of the general formula $\alpha(P_z)C$, wherein $\alpha(P_z)$ is one or more moieties which specifically binds to a human protein HSM801163, PCTK3, PFTK1, CRK7, PRKCN, CIT, STK6, PDK1, PAK4, ITK, BMX, PRKCM, NEK6 or PDPK1, and C is one or more cytotoxic moieties; and a pharmaceutically acceptable carrier.

16. The method of claim 15 wherein the therapeutic composition is administered by intravascular administration.

17. The method of claim 15 wherein the tumor is a breast, liver, colon, muscle, prostate, kidney, lung, placental, or uterine tumor.

18. The method of claim 15 wherein $\alpha(P_z)$ is selected from the group consisting of an antibody and an antibody fragment.

19. The method of claim 18 wherein the antibody is selected from the group consisting of monoclonal antibodies, polyclonal antibodies, humanized antibodies, recombinant antibodies, chemically modified antibodies, and synthetic antibody analogs.

20. The method of claim 15 wherein C is a radioactive moiety.

21. The method of claim 15 wherein the radioactive moiety comprises a pharmaceutically acceptable radioactive isotope selected from the group consisting of ^{123}I, ^{125}I, ^{131}I, ^{90}Y, ^{211}At, ^{67}Cu, ^{186}Re, ^{188}Re, ^{212}Pb, and ^{212}Bi.

22. The method of claim 15 wherein C is a chemotoxic moiety.

23. The method of claim 22 wherein the chemotoxic moiety is selected from the group consisting of methotrexate, a pyrimidine analog, a purine analog, a phorbol ester, and butyric acid.

24. The method of claim 15 wherein C is a toxin protein moiety.

25. The method of claim 24 wherein the toxin protein moiety is selected from the group consisting of ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

26. A compound for the treatment of a tumor of the general formula $\alpha(P_z)C$, wherein $\alpha(P_z)$ is one or more moieties which specifically binds to human HSM801163, PCTK3, PFTK1,

CRK7, PRKCN, CIT, STK6, PDK1, PAK4, ITK, BMX, PRKCM, NEK6 or PDPK1 protein, and C is one or more cytotoxic moieties.

27. The compound of claim 26 wherein $\alpha(P_z)$ is selected from the group consisting of an antibody and an antibody fragment.

28. The compound of claim 27 wherein the antibody is selected from the group consisting of monoclonal antibodies, polyclonal antibodies, humanized antibodies, recombinant antibodies, chemically modified antibodies, and synthetic antibody analogs.

29. The compound of claim 26 wherein C is a radioactive moiety.

30. The compound of claim 29 wherein the radioactive moiety comprises a pharmaceutically acceptable radioactive isotope selected from the group consisting of ^{123}I, ^{125}I, ^{131}I, ^{90}Y, ^{211}At, ^{67}Cu, ^{186}Re, ^{188}Re, ^{212}Pb, and ^{212}Bi.

31. The compound of claim 26 wherein C is a chemotoxic moiety.

32. The compound of claim 31 wherein the chemotoxic moiety is selected from the group consisting of methotrexate, a pyrimidine analog, a purine analog, a phorbol ester, and butyric acid.

33. The compound of claim 26 wherein C is a toxin protein moiety.

34. The compound of claim 33 wherein the toxin protein moiety is selected from the group consisting of ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

35. A method for treating a tumor comprising:

administering a therapeutic amount of a composition comprising: a compound of the general formula $\alpha(P_z)$, wherein $\alpha(P_z)$ is one or more moieties which specifically binds to a human protein HSM801163, PCTK3, PFTK1, CRK7, PRKCN, CIT, STK6, PDK1, PAK4, ITK, BMX, PRKCM, NEK6 or PDPK1, wherein the binding of $\alpha(P_z)$ alters the function of the human protein, and a pharmaceutically acceptable carrier.

36. The method of claim 35 wherein the therapeutic composition is administered by intravascular administration.

37. The method of claim 35 wherein the tumor is a breast, liver, colon, muscle, prostate, kidney, lung, placental, or uterine tumor.

38. The method of claim 35 wherein $\alpha(P_z)$ is selected from the group consisting of an antibody and an antibody fragment.

39. A composition for the treatment of a tumor comprising:

a compound of the general formula $\alpha(P_z)$, wherein $\alpha(P_z)$ is one or more moieties which specifically binds to a human HSM801163, PCTK3, PFTK1, CRK7, PRKCN, CIT, STK6, PDK1, PAK4, ITK, BMX, PRKCM, NEK6 or PDPK1, wherein the binding of $\alpha(P_z)$ alters the function of the protein, and a pharmaceutically acceptable carrier.

40. The composition of claim 39 wherein $\alpha(P_z)$ is selected from the group consisting of an antibody and an antibody fragment.

41. A method for visualizing a tumor in a patient, the method comprising:

(a) administering to a patient an effective amount of a composition comprising:

a compound of the general formula $\alpha(P_z)I$, wherein $\alpha(P_z)$ is one or more moieties which specifically binds to a human HSM801163, PCTK3, PFTK1, CRK7, PRKCN, CIT, STK6, PDK1, PAK4, ITK, BMX, PRKCM, NEK6 or PDPK1 protein, and I is one or more imaging moieties; and a pharmaceutically acceptable carrier; and (b) visualizing the imaging moieties of the compound.

42. The method of claim 41 wherein the imaging composition is administered by intravascular administration.

43. The method of claim 41 wherein the tumor is a colon, pancreas, lung or ovarian tumor.

44. The method of claim 41 wherein $\alpha(P_z)$ is selected from the group consisting of an antibody and an antibody fragment.

45. The method of claim 41 wherein I is a radiographic moiety.

46. The method of claim 41 wherein the radiographic moiety comprises iodine or an iodine isotope.

47. The method of claim 41 wherein the visualizing step (b) comprises x-ray imaging.

48. The method of claim 41 wherein the visualizating step (b) comprises scintillation imaging.

49. The method of claim 41 wherein I is a positron-emitting moiety.

50. The method of claim 41 wherein the positron-emitting moiety comprises ^{18}F.

51. The method of claim 41 wherein the visualizating step (b) comprises positron emission tomography.

52. The method of claim 41 wherein I is a magnetic spin contrast moiety.

53. The method of claim 52 wherein the magnetic spin contrast moiety comprises an ion selected from the group consisting of chromium(III), manganese(II), iron(II), nickel(II), copper(II), praseodymium(III), neodymium(III), samarium(III) and ytterbium(III).

54. The method of claim 41 wherein the visualizing step (b) comprises magnetic resonance imaging.

55. The method of claim 41 wherein I is selected from the group consisting of an optically visible dye and an optically visible particle.

56. The method of claim 41 wherein the visualizing step (b) comprises direct visual inspection.

57. The method of claim 41 wherein the visualizing in step (b) comprises visual inspection through an endoscopic instrument.